

Notice of Allowability

Application No.

09/879,932

Examiner

ABUL K. AZAD

Applicant(s)

YAMADA ET AL.

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the communication filed on June 14, 2001.
2. ☒ The allowed claim(s) is/are 1-8.
3. ☒ The drawings filed on 14 August 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 12/14/01, 11/17/03, 6/14/01
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

AK. AS
9/16/04

DETAILED ACTION

1. Claims 1-8 are pending in this Office Action.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The references cited in the Information Disclosure Statement, PTO-1449, filed on December 14, 2001 and November 17, 2003 have been considered.

EXAMINER'S AMENDMENT

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Morris Liss (Reg. No. 24,510) on September 15, 2004.

The application has been amended as follows:

IN The SPECIFICATION:

Please amend Specification as follows:

Page 4, line 7, after "According to" replace "these" with - -this- -

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Page 6, line 10, after "According to" insert - -a- -

Page 7, line 4, after "According to still" insert - -a- -

Page 10, line 12, after "arbitrary samples belonging" insert - -to- -

Page 18, line 14, after "parameters for each of the" replace "frames" with
- -frames- -

IN THE CLAIMS:

Please amend claim 1 as follows:

Claim 1, line 3, after "first noise samples" insert - -, which can exist at the time of
speech recognition, - -

Claim 1, line 3, after "into" insert - -a plurality of- -

Please amend claim 4 as follows:

Claim 4, lines 6 and 7, after "distance which is" replace "a shortest in other any"
with - -shorter than any other- -

Please amend claim 6 as follows:

Claim 6, line 3, after "first noise samples" insert - -, which can exist at the time of
speech recognition, - -

Claim 6, line 3, after "into" insert - -a plurality of- -

Please amend claim 7 as follows:

Claim 7, line 3, after "first noise samples" insert - -, which can exist at the time of
speech recognition, - -

Claim 7, line 3, after "into" insert - -a plurality of- -

Please amend claim 8 as follows:

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Claim 8, line 5, after "first noise samples" insert - -, which can exist at the time of speech recognition, - -

Claim 8, line 5, after "into" insert - -a plurality of- -

Allowable Subject Matter

5. Claims 1-8 are allowed over the prior art of record.
6. The following is an examiner's statement of reasons for allowance:

As per independent claims 1, 6, 7 and 8 the applicant teaches an apparatus/method/programmed-computer readable storage medium for producing an acoustic model for speech recognition. The prior art of record fails to teach or fairly suggest the claimed combination of features. The prior art of record particularly fails to teach categorizing of noise samples, which can exist at the time of speech recognition into a plurality of clusters to select a noise sample from each cluster to create a noise sample for training, and training an untrained acoustic model by superimposing the created noise samples for speech recognition.

Regarding the prior art of record, for example Schultz et al. (Acoustic and Language model of human and nonhuman noise for human-to-human spontaneous speech recognition) teaches, noise models are introduced representing both human and nonhuman noise, as well as word fragments, a clustering of the noise classes is performed and the resulting cluster variant are compared, thus allowing to determined the best tradeoff between sensitivity and the training ability of the model. However, Schultz fails to teach of fairly suggest, categorizing of noise samples, which can exist at

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the time of speech recognition into a plurality of clusters to select a noise sample from each cluster to create a noise sample for training, and training an untrained acoustic model by superimposing the created noise samples for speech recognition. Therefore, claims 1-8 are allowed over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Abul K. Azad** whose telephone number is **(703) 305-3838**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richemond Dorvil**, can be reached at **(703) 305-9645**.

Any response to this action should be mailed to:

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Or faxed to:

(703) 872-9314

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(For informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to 2121 Crystal Drive, Arlington,
VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should
be directed to the Technology Center's Customer Service Office at telephone number
(703) 306-0377.

A handwritten signature in black ink, appearing to read 'A.K. Azad', with a stylized flourish at the end.

Abul K. Azad

September 16, 2004